

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of manufacturing a semiconductor device, comprising the steps of:
loading a substrate into a reaction furnace,
processing the substrate in the reaction furnace,
performing a 1st purge in a state of the processed substrate in the reaction furnace by
_____ evacuating an inside of the reaction furnace through an exhaust line,
_____ supplying an inert gas into the reaction furnace ~~one or more times~~,
_____ thereby changing a pressure in the reaction furnace,
unloading the processed substrate from the reaction furnace, and
performing, after the processed substrate is unloaded from the reaction furnace and
before another substrate is loaded into the reaction furnace, a 2nd purge by
_____ evacuating the inside of the reaction furnace through the exhaust line,
_____ supplying the inert gas into the reaction furnace ~~one or more times~~,
_____ thereby changing the pressure in the reaction furnace,
wherein an amount of change in the pressure in the reaction furnace in the 2nd purge
step is larger than an amount of change in the pressure in the reaction furnace in the 1st purge
step; and
_____ in the 1st purge and in the 2nd purge, the evacuation of the inside of the reaction
furnace and the supply of the inert gas into the reaction furnace are repeated two or more
times; and

in the 1st purge, the evacuation of the inside of the reaction furnace and the supply of the inert gas into the reaction furnace are performed under a state that an exhaust valve, which is provided in the exhaust line, is open; and

in the 2nd purge, the evacuation of the inside of the reaction furnace is performed under the state that the exhaust valve is open and the supply of the inert gas into the reaction furnace is performed under a state that the exhaust valve is closed.

2. (Canceled)

3. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein a difference between a maximum pressure and a minimum pressure in the reaction furnace in the 2nd purge is larger than a difference between a maximum pressure and a minimum pressure in the reaction furnace in the 1st purge.

4. (Currently Amended) A method of manufacturing a semiconductor device according to claim 1, wherein, ~~in the 1st purge and the 2nd purge, the evacuation of the inside of the reaction furnace and the supply of the inert gas into the reaction furnace are repeated 2 or more times, and~~ a cycle of the evacuation of the inside of the reaction furnace and the supply of the inert gas into the reaction furnace in the 2nd purge is shorter than a cycle of the evacuation of the inside of the reaction furnace and the supply of the inert gas into the reaction furnace in the 1st purge.

5. (Currently Amended) A method of manufacturing a semiconductor device according to claim 1, wherein, ~~in the 1st purge and the 2nd purge, the evacuation of the inside of the reaction furnace and the supply of the inert gas into the reaction furnace are repeated 2 or more times, and~~ a cycle number of the evacuation of the inside of the reaction furnace and the supply of the inert gas into the reaction furnace in the 2nd purge is greater than a cycle number of the evacuation of the inside of the reaction furnace and the supply of the inert gas into the reaction furnace in the 1st purge.

6-8. (Canceled)

9. (Original) A method of manufacturing a semiconductor device according to claim 1, wherein in the substrate processing step a gas containing boron is used.

10. (Original) A method of manufacturing a semiconductor device according to claim 1, wherein in the substrate processing step a boron-doped silicon film is formed on the substrate.

11. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein in the substrate processing step monosilane (SiH_4) and boron trichloride (BCl_3) are used.

12. (Original) A method of manufacturing a semiconductor device according to claim 1, wherein the 2nd purge step is performed each time in every time the processing to the substrate is performed.

13. (Currently Amended) A method of manufacturing a semiconductor device, comprising the steps of:

charging a substrate to a support,

loading the support charged with the substrate into a reaction furnace,

processing the substrate in the reaction furnace,

unloading the support, which supports the processed substrate from the reaction furnace,

discharging the processed substrate from the support after the support which supports the processed substrate is unloaded from the reaction furnace,

loading the support into the reaction furnace without charging a product substrate to the support, after the discharging the processed substrate from the support, and purging, under a state that the support not charged with the product substrate has been accommodated in the reaction furnace, by

evacuating an inside of the reaction furnace through an exhaust line,
supplying an inert gas into the reaction furnace,
thereby changing a pressure in the reaction furnace, wherein, in the purging step, the evacuation of the inside of the reaction furnace and the supply of the inert gas into the reaction furnace are repeated two or more times, and, the evacuation of the inside of the reaction furnace is performed under a state that an exhaust valve, which is provided in an the exhaust line ~~for exhausting the inside of the reaetion furnace~~, is open, and the supply of the inert gas into the reaction furnace is performed under a state that the exhaust valve is closed.

14. (Previously Presented) A method of manufacturing a semiconductor device according to claim 13, wherein the purging step is performed under a state that a dummy substrate is supported without supporting the product substrate to the support.

15. (Original) A method of manufacturing a semiconductor device according to claim 13, wherein the purge step is performed each time in every time the processing to the substrate is performed.

16. (Canceled)

17. (Withdrawn) An apparatus for processing a substrate, comprising:
a reaction furnace for processing the substrate,
a gas supply line for supplying a gas into the reaction furnace,
a loading/unloading device for loading and unloading the substrate into and from the reaction furnace, and

a controller which controls so as to perform, under a state that the substrate after the processing has been accommodated in the reaction furnace, a 1st purge by performing an evacuation and a supply of an inert gas to the reaction furnace more than one time, which controls so as to perform, after the substrate after the processing has been unloaded out of the reaction furnace, before a substrate to be processed next is loaded into the reaction furnace,

and under a state that at least a product substrate is not accommodated in the reaction furnace, a 2nd purge by performing the evacuation and the supply of the inert gas to the reaction furnace more than one time, and additionally which controls such that a pressure change quantity in the reaction furnace per unit time in the 2nd purge is made larger than a pressure change quantity in the reaction furnace per unit time in the 1st purge.

18. (Cancelled)